

MINUTES

CALIFORNIA TRAFFIC CONTROL DEVICES COMMITTEE MEETING OF October 22, 1998

The second meeting of the CTCDC in 1998 was held in the Headquarters Auditorium of Caltrans, in San Diego on October 22, 1998.

Chairman Ray Mellen opened the meeting at 9:03 a.m. with the introduction of members and guests. The Chairman thanked Caltrans for their gracious hospitality on behalf of the Committee.

The following members, alternates, and guests were in attendance:

ATTENDEES	ORGANIZATION	TELEPHONE
Members (Voting)		
Ray Mellen Chairman	Auto Club of Southern California	(714) 885-2301
John Wallo Vice Chairman	California State Association of Counties, San Luis Obispo County	(805) 781-4466
Bruce Carter	California State Association of Counties, Shasta County	(530) 225-5661
Dick Folkers	League of California Cities, City of Palm Desert	(760) 346-0611
Merry Banks	California State Automobile Association, Sacramento	(916) 443-2577
Jerry Meis	California Department of Transportation, Sacramento	(916) 654-4551
Lt. Dennis Brunette	California Highway Patrol, Sacramento	(916) 657-7222
Wayne Tanda	League of California Cities, City of San Jose	(408) 277-4945
Jack Kletzman Secretary	California Department of Transportation, Sacramento	(916) 654-4715

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ATTENDEES	ORGANIZATION	TELEPHONE
Dennis Anderson	3M	1-800-933-9985
Richard Backus	Auto Club of Southern California	(714) 885-2326
Bob Brow	Sacramento County	(916) 875-5857
Dennis Dunn	Sacramento County	(916) 875-5857
John Fisher	City of Los Angeles	(213) 580-1193
Peter Floodman	Light Guard Systems	(707) 542-4547
Damin Hall	3M	
Trev Holman	City of El Cajon	(619) 441-1665
Conrad Lapinski	City of Mission Viejo	(949) 470-3039
Jim Larsen	Tulare County	(209) 733-6291
Perry Lowden	Consultant	(530) 673-2214
Lujuanna Lopez	CHP	(916) 657-7222
David Moore	Safeway Sign Company	1-800-637-7233
Hank Morris	Caltrans, San Diego	(619) 688-6881
Alan Oswald	City of San Juan Capistrano	(949) 443-6356
John Puskas	San Diego County	(619) 874-4012
Harold Rosenberg	Consultant	(619) 582-5828
Manjit Sekhon	Caltrans, Sacramento	(916) 654-6783
John Thai	City of Anaheim	(714) 705-5202
Fim Zabeghinsky	Caltrans, Los Angeles	(213) 897-1586
Robert Zeigler	Marin County	(415) 499-6336

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Wayne Tanda expressed concern that the Committee did not take a more positive action, other than to continue the experiment in Bicycle Signal Heads (Item 90-7). Ray Mellen recalled that the Committee wanted to wait for legislative authority to proceed. Jack Kletzman noted that the Governor had vetoed the legislation. Gerry Meis said that Caltrans was working on the warrants and was assuming that the legislation will be reintroduced.

Ray Mellen noted that AB2222 which may eliminate the need for Engineering and Traffic Surveys with respect to radar citations, has been signed by the Governor. (OFF AGENDA ITEM – TRAFFIC MANUAL CHAPTER 8.) *[The legislative analysis of AB2222, as chaptered, reads "...This bill would provide an alternative definition of "speed trap" that would require that the engineering and traffic survey have been conducted within either 7 or 10 years, as specified. The alternative definition would apply only when specified actions by the officer issuing a notice to appear and the prosecutor have occurred. The bill would define "school zone", and would exclude a school zone from both the definition of speed trap in existing law and the alternative definition provided under the bill."]*

John Wallo requested information about the reason changes that were made regarding construction zone signing which differed from the approved Committee version. Gerry Meis asked Wallo to specify the changes and he would look into the matter.

Jack Kletzman said that the Golf Cart Symbol Sign was delayed because of an inability to obtain the FHWA version of the sign. Dick Folkers said he had, through a manufacturer of reflective material, spent over three months consulting with Washington and has been unable to get an approved copy of the sign. John Wallo said the CHP was expecting the counties to have these signs for a golf cart transportation plan. Folkers suggested using the Caltrans draft golf cart sign. Damin Hall confirmed that the legislation existed but the drawing he received had "Not Approved" stamped on the top of the diagram.

MOTION: By Dick Folkers, second by John Wallo, to adopt the minutes of the Sacramento meeting, held on March 5, 1998. Motion carried 8-0.

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MEMBERSHIP

Newly appointed alternative members are Lt. Dennis Brunette (DCHP) and Mr. John Fisher (LOCC).

93-10 SIGNING, LIME-YELLOW SPECTRUM

Bruce Carter explained that the FHWA was testing signs having a lime yellow-green spectrum to see if they were of any benefit. In California, the City of Los Angeles and the City and County of Napa conducted experiments under the auspices of the Committee. The experimental results were sent to the FHWA and the Committee tabled any action pending FHWA conclusions. The FHWA published a final rule, effective June 1998, which allowed as a “may” condition, the use of lime yellow-green material for advance pedestrian crossing signs, pedestrian crossing signs, bicycle crossing signs, school advance signs, school crossing signs, and school bus stop ahead signs. Experiments proved there was, if any, only marginal improvement. Nevertheless, FHWA approved the color, and the Committee should now take action.

Ray Mellen believes the City of Petaluma has already changed all their signs. John Fisher told the Committee that Dave Royer concluded that the color was too green and did not look like a warning sign and that during the Spring tended to blend in with adjacent foliage. Royer was also concerned about the durability of these signs, the cost, and the fact that there was only one manufacturer. Bruce Carter recalled that Royer felt there was no significant improvement in driver reaction, but schools and police were in favor of such signs because they are different. Gerry Meis said that Caltrans did not test the color. Meis also said that, in the absence of any statistical data showing an improvement in safety, Caltrans does not intend to use it on the State highway system. If local agencies want this color, Caltrans is willing to adopt it for their use.

John Wallo advocated uniformity in signing and opposed differing signs for State and local jurisdictions afforded by a “may” condition. Wayne Tanda observed that the information gathered by the City of Los Angeles was submitted to the FHWA and they, considering all the reports, adopted the color. Tanda also said that, although there may be an advantage to have multiple suppliers, it should not be the basis for adopting a standard, because value would be sorted out in the market place.

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93-10 SIGNING, LIME-YELLOW SPECTRUM (continued.)

Gerry Meis presented to the Committee proposed verbiage to adopt fluorescent yellow green for use, as alternate signing, in California. Meis said that the general language used in the draft is preferred by Caltrans for the Traffic Manual. Ray Mellen read the proposed draft, "FLUORESCENT YELLOW GREEN may be used as an optional background color on warning signs for pedestrian crossing, bicycle crossing, school zones, and school bus stops."

Bruce Carter noted that Committee approved experiments only covered school zones and that the Federal level experimentation must have covered the other signs. The consensus of the Committee was that, if the fluorescent yellow green color were voted down, the Traffic Manual would still be in substantial compliance with the MUTCD because of the Federal "may" condition.

John Wallo reiterated his concern of the lack of any criteria to determine the choice between using existing colors or fluorescent yellow green. He fears the use of fluorescent yellow green will generate more requests for the sign without significant benefit. There will be two different color signs telling the motorist the same message. Ray Mellen concurred with the desire for uniformity and recommended specifications be written so that they do not preclude other vendors from manufacturing these signs. Wayne Tanda pointed out that there are many instances of non-uniformity of traffic control devices as a result of engineering judgement. There may be a bigger difference in non-uniformity because of the color of the sign, but the message is the same, and it should be the responsibility of the local jurisdiction to determine where and when to post fluorescent yellow green signs. Adoption of this color would give local jurisdictions more flexibility.

Merry Banks agreed that local agencies could not afford to change all the signs at one time. She suggested that, if the new color were approved, they might change them as required. The feedback that she has been getting is that the sign is so conspicuous, especially at dusk, that motorists pay attention. She feels the conspicuity extends beyond the newness of the sign.

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93-10 SIGNING, LIME-YELLOW SPECTRUM (continued.)

Bruce Carter feels that traffic engineers are trying to combat a lack of respect for traffic control devices by coming up with new devices that have more punch or more whatever. He contends that motorists going through a yellow school zone sign, know its it's a school zone, and a new color will not stop that behavior. Six months from now, we will have to come up with another color.

Ray Mellen said that, with respect to adoption of the color by FHWA and requested use of the color by local jurisdictions, the Committee remained advisory to Caltrans. Dick Folkers recalled that there was a lot of trauma, when yellow and black YIELD signs were changed to red and white, and when yellow and black construction signs were changed to orange and black. Folkers advocated supporting the motion even though some may not appreciate the qualities of the new color. The FHWA has approved the color, its being used, and it would not be fair to prevent local agencies from using this color.

John Wallo said his county has done a lot of traffic surveillance around elementary schools and they have found that the biggest violators are the parents that deliver children to the school. Its not the motorist that is making a through trip. Another sign, that someone thinks looks good, will not solve this problem, especially if it is a "may" condition. Ray Mellen pointed out that the FHWA was considering colors along this line for incident management. Mellen noted that the report said AAA was in support of the color, but a formal position by AAA had not been taken, except by the States of Florida, Louisiana, and Mississippi.

John Puskas felt the sign material was too bright for his signing system. They predominantly use engineering grade signs with some high intensity signs. Diamond grade sheeting would be incompatible. Puskas feels approval of the motion would force him to change all the signing to diamond grade at high expense and make signs much brighter than necessary. He does not see the need for diamond grade sheeting at night. Puskas advocates using fluorescent yellow green color in a variety of sheeting materials.

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93-10 SIGNING, LIME-YELLOW SPECTRUM (continued.)

John Fisher told the Committee that, in urban areas, $\frac{1}{5}$ to $\frac{1}{4}$ of all the fatalities are pedestrian accidents. Fisher said that current studies indicate that 60% of motorists do not yield to pedestrians at crosswalks, even with adequate signing and markings. These tests looked at “before” and “after” accidents, but are inconclusive because of the infrequent number of accidents. Fisher suggested that the Committee recommend requiring uniformity in a given location. If one school sign were changed to the new color, then all signs at that school should be changed, so existing yellow signs are not diminished. The same should apply along a route segment, in that, if pedestrian crossing signs were changed at one crosswalk, subsequent crosswalks should also be changed.

Dennis Anderson understood that the fluorescent yellow green color was studied by the FHWA for five years. During this period any manufacturer in the industry had an opportunity to develop a product for this color. Anderson pointed out that the specification only dictates the color, not a specific manufacturer. There had been national concern about the durability of the product, but Anderson said his company offers a warrantee equivalent to warrantees on other signs of the same material.

Perry Lowden agreed that it was difficult to gather significant data for a sign's effectiveness, unless there is a twenty year study. One would not expect a reduction in overall speed because 90% of the time there is no pedestrian in the crosswalk and pedestrian/vehicle accidents are not statistically significant. He believes the FHWA made the color a “may” condition because there is not enough money to fund a mandatory sign change. Lowden said the Federal publication does call for area wide sign changes.

Wayne Tanda noted that rural communities not using high intensity sheeting for any signs would not be required to use the brighter sheeting by this action of the Committee. Tanda pointed out that the FHWA after reviewing the fluorescent yellow green color for five years concluded that this was equal to, and in some instances, may be better than, existing signs. He feels this color adds another tool which can be used by the traffic engineer. The decision to use the sign is up to the local jurisdiction.

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93-10 SIGNING, LIME-YELLOW SPECTRUM (continued.)

Gerry Meis explained that the draft did not exclude State highways because he expects to be required to put up some of these signs. His objections to the signs are that there is no statistical support for the sign and the necessity for duplicate inventory. Dick Folkers said he wanted to use this sign at a high school in Palm Desert and wondered how others were able to use this sign. Ray Mellen thought that use of the color could be substantiated in court, if one was in compliance with the National Manual. Bruce Carter pointed out that the Vehicle Code [Section 21400 and 21401] delegated, to the Department of Transportation, the authority to develop sign standards in California, and that all local agencies must follow these standards. Wayne Tanda said that if a sign is not a Caltrans standard, technically it is not an official traffic control device, and should not be placed on a street or highway. Because the Committee is only advisory to Caltrans, Caltrans could still adopt the sign, regardless of Committee action.

MOTION: By Wayne Tanda, second by Dick Folkers, to recommend adoption in Section 4 of the Traffic Manual, as a “may” condition, the use of fluorescent yellow green background color for, pedestrian crossing, bicycle crossing, school zones, and school bus stops. Motion failed 5-3. *[This is an insufficient plurality to adopt a recommendation for a traffic control device. Six affirmative votes are required. Subsequent to this action by the Committee, Caltrans adopted the yellow green as an alternative signing.]*

ACTION: Item completed.

97-10 TRB RESEARCH FOR LOCAL AGENCIES

Gerry Meis recalled that Caltrans got a letter from TRB which noted that most TRB research deals with transportation problems at the State level and asked if they should widen the focus for local agency level problems. The agenda copy is the Caltrans response and the issue was agendized to close the item. The consensus of the Committee was that closing the item did not preclude local agency participation in a broader focus of the TRB.

MOTION: By Bruce Carter, second by Gerry Meis, to complete the item.
Motion carried 8-0.

ACTION: Item completed.

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98-1 NO PARKING BIKE LANE

John Wallo explained that San Luis Obispo County is implementing a county wide bicycle plan. Many of the roads now being improved include a Class II bike lane. They have encountered a problem in preventing vehicles from parking in bike lanes especially at interchanges. The CHP has informed the County that a BIKE LANE sign is not sufficient and that additional NO PARKING signs are also required for enforcement by the CHP. As a result, Wallo is asking the Committee to recommend adoption of the MUTCD R7-9A sign so that the County does not have to post two signs on the same pole. He feels that the phrase "... to park where parking is permitted..." in Section 21209 of the Vehicle Code is extremely unclear. Apparently the CHP and the County Council feel parking is allowed unless restricted, or in violation of other sections of the Vehicle Code.

Merry Banks feels that motorists, seeing a wide space, think they can park, and if they can't, they should be told the reason. She feels the proposed signs are excellent because they tell motorists they can't park and why. Wayne Tanda read that the sign policy, "...to restrict standing, parking, or stopping in a designated bicycle lane ...". Tanda pointed out that no parking is different than no stopping and each has a specific meaning. The sign says NO PARKING. John Fisher verified the distinction in the Traffic Manual. John Wallo said there was no problem with standing or stopping, only parking. If such a problem occurred the County would have to use different signs. Tanda had the impression that there was some legislation which said not to park/ stop in a bike lane. Ray Mellen surmised that a clear message to the motorist was needed, rather than what was legally required. Tanda was concerned that if the legislation says there shall be no parking, then the sign works. If the legislation says there shall be no stopping then we are not in compliance with the legislation.

Dennis Brunette noted that Vehicle Code Section 21209 allows entering a bicycle lane only where it has broken dashed white lines. Driving into a bicycle lane to park would be a violation. John Wallo said that was not the interpretation given to him by the CHP in his area. Ray Mellen noted there are areas where parking is allowed on the other side of the bike lane. Mellen pointed out that Wallo's request was to prohibit parking. Wallo requested that "standing" and "stopping" be deleted from the policy.

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98-1 NO PARKING BIKE LANE (continued.)

Jack Kletzman said Rick Blunden, the Executive Secretary of the Bicycle Advisory Committee, asked him to inform this Committee that the BAC supported these signs. John Fisher found that the Traffic Manual on Figure 6-26, BIKE LANE SIGNING AND MARKINGS, specifically shows a NO PARKING ANY TIME (R26) sign in combination with a BIKE LANE (R 81) sign. The consensus of the Committee agreed with Fisher's observation that the proposal would be an alternative sign package implying a no parking sign is required.

MOTION: By John Wallo, second by Dick Folkers, to recommend adoption of the MUTCD R7-9 and R7-9a signs, subject to "standing" and "stopping" being deleted from the policy. Motion carried 8-0.

ACTION: Item completed.

98-2 FLASHING YELLOW ARROW SIGNAL

John Thai proposes to reduce left turn delay, during off peak hours, by using a flashing yellow arrow to signal permissive left turns in the afternoon or evening. Thai revised the position of the proposed signal indications so that the bottom signal head means go. Thai said he would ultimately ask the Committee for permission to experiment.

John Thai said he would educate the public by notices in the local paper and the City Council's public outreach program. He also intend to use City cars to demonstrate the meaning of the signal. Thai envisions using three signals along an arterial street for his demonstration. Manjit Sekhon said that a bimodal head had not been approved by Caltrans. Ray Mellen suggested that that much of the traffic are not residents of Anaheim. These people may not have access to local press or cable TV, and any education program should go beyond reaching local residents.

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98-2 FLASHING YELLOW ARROW SIGNAL (continued.)

John Thai said that with protective-permissive phasing, the proposed scheme does not offer anything in addition. Thai said his proposal gives engineers the ability to do permissive-protective at any time without the left turn trap. He feels the biggest benefit is at night when, because of the flashing arrow, the number of phases can be dropped from eight to two. Then coordinate the cycles to the low cycle instead of using 120 cps.

John Wallo suggested that the experiment test the use of the bimodal head and the intersection operation. Wayne Tanda is concerned that a flashing yellow arrow does not intuitively tell a motorist of a permissive movement. Tanda requested that the experimental proposal contain, how to address the confusion associated with, a flashing yellow arrow, a bimodal head, and a solid yellow signal which sometimes goes to flashing yellow and other times to solid red. Tanda is concerned that the confusion may affect the safety of the experiment. He would also like to see the results of the State of Washington, who has utilized similar devices, included in the findings.

John Thai pointed out that the number of visitors makes Anaheim a good test site because, if the experiment were successful in Anaheim, it would work anywhere. Gerry Meis established that if the experiment were successful, there would be two symbols, the solid green ball and the flashing yellow arrow, indicating a permissive left term. Thai believes his proposal does not conflict with either the Vehicle Code or the MUTCD. Dick Folkers requested a comparison of the advantages between the proposal and a flashing red signal.

Trev Holman expressed concern that the proposed test operation had a solid yellow sometimes go to a red and other times go to a flashing yellow arrow. Ray Mellen warned that the caution should be exercised in predicting motorists reaction. John Wallo suggested educating and then testing various civic groups to determine how well the new messages are understood. John Fisher believes the national manual does acknowledge the bimodal signal.

ACTION: Item continued.

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98-3 ITE/CALTRANS LED SPECIFICATION

Gerry Meis presented the recently officially adopted specifications for LED red ball, red pedestrian hand, and red arrow. Manjit Sekhon told Wayne Tanda that, in his opinion, the City of San Jose was in compliance with the specification.

Manjit Sekhon explained that there were concerns about the incompatibility with existing load circuits and monitors. There was an article published in March/April 1998 issue of IMSA Journal by Messrs. Behura and Evans which proposed a solution of a total harmonic distortion of 40% as compared to 20%. Caltrans believes that no change is needed at this time.

Dennis Dunn asked that a list of qualified LED manufacturers and model numbers be put on the web site. Manjit Sekhon said there is no official list of qualified manufacturers, samples from two of the manufacturers have passed the test. Wayne Tanda established that the specifications in the agenda were the official purchase specifications.

MOTION: By Bruce Carter, second by Merry Banks, to close the item.
Motion carried 8-0.

ACTION: Item completed.

98-4 YELLOW PHASE TIME

Gerry Meis told the Committee that Caltrans had changed from English to Metric units. Some local agencies thought the values had changed. This correction revises minor errors and clarifies values to be used in the equations. Dick Folkers said most agencies use between 4 and 4.5 seconds for the yellow phase and asked if Caltrans used 4.7 to 5.8 seconds for setting the yellow time. Manjit Sekhon said he would look into that. Ray Mellen noted that the enabling letter unit was unreadable. Jack Kletzman said the unit was seconds.

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98-4 YELLOW PHASE TIME (continued.)

Manjit Sekhon indicated that there had been several corrections to Table 9-1. The initial equation is $d=3.05 \text{ meters/second}^2$. A typographical error had shown the figure as $3.6 \text{ meters/second}^2$. The second change is the inclusion of the Yellow Interval formula $T= r + \sqrt{v/2d}$. The third change is to clarify that the posted speed, rather than its metric conversion, should be used. Bruce Carter established that the TOTAL TIME column should be in seconds and this correction from the Agenda version has already been made.

John Fisher established that there had not been any finding by the Committee, prior to the metric conversion, that $10 \text{ feet/ second}^2$ was a more appropriate deceleration rate, rather than $12 \text{ feet/ second}^2$. Fisher noted that the deceleration change increased the yellow time interval and increased the set back.

Jack Kletzman said the reason this item was before the Committee was because some members or guests of the Committee thought there had been a change in the duration of yellow phase time. Kletzman said he had been assured that in addition to the minor corrections, the only change was a conversion to metric. Manjit Sekhon concurred that there had been no change in policy in the last revision.

John Wallo wanted to know if there had been a policy change, and the reasons for any change.

ACTION: Item continued.

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STATUS OF EXPERIMENTS

Item 94-10 PEDESTRIAN SIGNAL HEAD

Bruce Carter said the County of Sacramento is ready to submit it's final report at the next meeting. Carter said the device doesn't stop pedestrians from starting late but they go faster. The new locations are on Watt Ave. and Whitney Ave., Arden Way and Whitney Ave., Bradshaw Road and Goethe Road, Bradshaw Road and Old Placerville Road, Diablo Drive and Elkhorn Blvd., and Howe Ave. and Northrop Ave.

Item 96-3 ILLUMINATED LEFT TURN YIELD SIGN

Wayne Tanda presented a memorandum dated September 1, 1998 describing the status of the experiment to develop a superior LEFT TURN YIELD ON GREEN BALL (R73-7) sign. The City of San Jose intends to have a LEFT TURN YIELD sign during the permissive phase when the green ball is illuminated. This sign is extinguished during other phases of the signal. The idea was approved for experimentation two years ago, and the signs were erected in February and May of this year. Data collection began in July. Tanda anticipates it will take one year of data gathering to develop an informed recommendation for presentation to the Committee.

The City is monitoring crash data for safety, driver behavior for effectiveness, and working with San Jose State University to survey public understanding. There will be a comparison between the proposed sign and the R73-7. Tanda thinks the sign is working well. The signs are very expensive because they are prototype signs.

Item 97-9 ELECTRIC MESSAGE SIGNS AND ARROW BOARD

Jack Kletzman explained, that Caltrans wants to test changeable message signs to determine the appropriate pixel size for letter width and the length of time messages need to be displayed for motorist comprehension, at various highway speeds. Kletzman said that Caltrans sends out, area of inquiry requests, and then receives proposals from interested parties. Caltrans had been trying to partner with Calpoly, but a satisfactory proposal has been received from the U.S. Navy. The U.S. Navy apparently has been doing similar testing. No contract has been signed.

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PUBLIC COMMENTS

Conrad Lapinski said that about a year and a half ago, SPEED ENFORCED BY RADAR plates, started to be placed under SPEED LIMIT signs. Lapinski recalls the Committee heard the issue and suggested that the plates be limited to the beginning and ending of the speed zones enforced by radar. Within the last month all of Interstate 5 has been posted with radar enforcement signs. He wondered if any policy enforcement would be forthcoming from the Committee.

Gerry Meis said that the CHP operations manual does not allow radar enforcement of speed limits on freeways, unless Caltrans has posted SPEED ENFORCED BY RADAR signs. Meis said that Caltrans generally posts this sign when requested by the CHP. With certain exceptions, CHP has recently initiated a border to border radar enforcement of Interstate 5. John Wallo recalled that Caltrans wanted to cut down on the number of signs because of the hazards involved in installing and maintaining signs. Meis concurred that, that is the Caltrans policy and discussions are continuing between Caltrans and the CHP concerning the number of signs needed. CHP has experienced judges throwing out cases where motorists were not advised that the speed limit is enforced by radar.

Ray Mellen interpreted that Lapinski felt current signing is in conflict with policy. Lapinski recalled that the Committee said the sign doesn't work and didn't want it all over the place. The policy voted, was to place the signs at the beginning and ending of those speed zones enforced by radar. These SPEED ENFORCED BY RADAR plates are now being erected on every sign. Bruce Carter pointed out that the Committee was only advisory to Caltrans.

Gerry Meis said that Caltrans still advocates the minimum number of signs, but in this case CHP would like the signs out on the road. Meis said Caltrans was discussing the possibility of putting them only at County boundary. Carter recalled that the Vehicle Code designates where radar signs are placed on local roads. Meis said there was no legal requirement for radar enforced signs. Dennis Brunette said it is the CHP's policy to have radar enforced signs in place to avoid a public misconception of the CHP setting speed traps. Brunette also said the CHP has considerably expanded its radar and aircraft enforcement programs.

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PUBLIC COMMENTS (continued.)

[The R48-1 sign policy is,"... When used, it is placed below the R2, at the beginning of the segment of roadway and at intervening major intersections, where radar enforcement is in effect...."]

Initially the issue was brought to the Committee by John Wallo for use on local roads. It is not a replacement for the R48 which doesn't require any other sign. Caltrans policy was to leave speed limit signs unencumbered, but in anticipation of the CHP expanding their use of radar, this sign was also to be used on State highways. Approval of the sign later included R6 signs, though CHP did not usually enforce 55 mph speed limits with radar.]

INFORMATION ITEMS

Item 90-7 BICYCLE SIGNAL HEADS

Wayne Tanda told the Committee that the Governor vetoed the separate bicycle signal head bill, but the veto had nothing to do with the specific recommendations made by the CTCDC and the City of Davis. Tanda believes the veto occurred because of a political philosophy, of not requiring the State or local jurisdictions to do something mandatory, without a commensurate amount of funds. Tanda said the City of Davis intends to reintroduce the bill. Caltrans and the City of Davis are working on a set of warrants for guidelines. Tanda was concerned that the Committee never took a position on the device, even though the consensus of the Committee was to move ahead on the item, subject to appropriate legislation and warrants being established.

Jack Kletzman said that he and Rick Blunden wrote a draft set of warrants. The warrants were sent to a number of people for review. The comments received are to be taken back to the BAC so there is some consensus on the warrants. Revised warrants, or the existing draft together with BAC recommendations, will be brought back to the Committee. Gerry Meis said Caltrans recognized that it was the Committee's intent to approve the bicycle signal head. Kletzman said that since the item is an informational item, no formal action can be taken by the Committee. Meis believes the bill will become law and wants to go ahead and develop the warrants. Ray Mellen suggested listing the item in the agenda for the next meeting.

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INFORMATION ITEMS (continued.)

Item 93-18 CROSSWALKS, SEQUENTIAL LIGHTING

Peter Floodman said that one of the concerns of the Committee and Caltrans, has been the height of the flashing light above the pavement. Floodman wanted to inform the Committee that the latest available model of pavement light is now $\frac{1}{2}$ " above the roadway surface. The maximum height now allowed by Caltrans is $\frac{3}{4}$ " above the pavement. He exhibited a model which has a single row of LED lights. Night visibility is no problem, but to increase day visibility, the array of lights is focused at the motorists approach path and intersect at a point in advance of the crosswalk. This control point creates a convergence zone of more concentrated area light. On a four lane roadway there are no fewer than nine of these devices aimed at the motorists approach path. Drivers are yielding to these devices. The other component that makes the device effective during the day is the specific flash rate. They use a 40% duty cycle pulse which was recommended by the University of California's Department of Optometry to maximize the recognizable characteristics of lights. Floodman considers this flash rate superior to the flash rate recommended in the interim guidelines. This rate had been approved by Caltrans' Office of Electrical Systems as exceeding the minimum flash rate.

Gerry Meis informed the Committee that Caltrans had approved seven new experimental installations. Six of these were on city and county roads and one is on a State highway in the Stockton area. Meis said Caltrans is willing to modify the Guidelines in response to new information received from the test locations. Each of the local jurisdictions has been asked to fill out an evaluation form at the end of one year of operation and this information will be used to develop a State standard. Meis said the guidelines did not specify posted speed or 85th percentile in order to give the local jurisdictions more flexibility. There was no consensus from the Committee advising Caltrans to specify posted speed or 85th percentile.

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INFORMATION ITEMS (continued.)

Item 97-11 RAISED PAVEMENT MARKERS ON ISLANDS

Dick Folkers said that the City of Palm Desert was dropping the experiment and so notified the Executive Secretary of the Committee.

OFF AGENDA ITEMS

SPEED HUMPS

Wayne Tanda told the Committee that, in the State of Florida, a judge determined that speed humps are a traffic control device. As such, they must be removed in the city where this case developed. The case is being appealed.

Wayne Tanda recalled that, some fifteen years ago, the Committee held that, in California, speed humps are a design feature. The sub-committee was split. Some held they were a design feature, because a recently enacted provision in the Vehicle Code (Section 440) said curbs, median islands, etc. were to be considered design features of the roadway. Others advocated that speed humps are a traffic control device, because they weren't specified as a design feature in the Vehicle Code. The Committee voted in favor of speed humps being a design feature. Subsequently the Legislature included speed humps in Section 440.

ENGINEERING COUNCIL

Ray Mellen told the Committee the ITE Traffic Engineering Council had added a new committee called Use of Less Stringent Device Standards by Local Agencies. Mellen is concerned that there may be a national movement to ignore the MUTCD. Wayne Tanda explained that if there is an idea which has some merit, the ITE Traffic Engineering Council establishes a committee to study it. The process will probably take two to three years and then goes through a stringent review process. It may not be a proposal to relax standards but to investigate what is happening across the nation.

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OFF AGENDA ITEMS (continued.)

CALTRANS WEB SITE

Gerry Meis told the Committee that the first three chapters of the Traffic Manual were on the internet. More information will be available when the task has been completed. Meis said that he also intends to put the Approved Products List on the web.

PEDESTRIAN PUSH BUTTON DETAIL DELETION

Manjit Sekhon told the Committee that Caltrans would like to delete the Type A pedestrian push button from the Standard Plans (Sheet ES-5C) because it is not being used. Gerry Meis clarified that Type B and C pedestrian push buttons would remain in the Standard Plans. Jack Kletzman explained that if there were no concerns by the Committee, Caltrans would delete the Type A detail. If there were concerns, Caltrans would formally raise the issue at the next meeting. Wayne Tanda thought the detail should be dropped to eliminate confusion. The consensus of the Committee was that there were no objections.

ADJOURNMENT

MOTION: By Dick Folkers, second by Bruce Carter for adjournment.
Motion carried 8-0. The meeting was adjourned at 12:20 pm.

CALTRANS ACTIONS

Item 90-7 BICYCLE SIGNAL HEADS

Waiting for enabling legislation. Caltrans is in the process of drafting warrants and standards.

Item 92-18 GOLF CART SYMBOL SIGN

Caltrans will make the sign specifications upon receiving the FHWA approved symbol sign from the City of Palm Desert.

Item 93-10 SIGNING, LIME-YELLOW SPECTRUM

Caltrans has approved fluorescent yellow green color as an optional background color on warning signs for pedestrian crossings, bicycle crossings, school zones, and school bus stops.

Item 93-18 CROSSWALKS, SEQUENTIAL LIGHTING

Caltrans is continuing with local agency experimentation.

Item 94-10 PEDESTRIAN SIGNAL HEAD

Experiment in progress.

Item 96-3 ILLUMINATED LEFT TURN YIELD SIGN

Experiment in progress.

Item 96-7 SPEED LIMIT SIGNING

Caltrans is reviewing the Committee's recommendation.

Item 97-10 TRB RESEARCH FOR LOCAL AGENCIES

Caltrans sent a letter to TRB saying that the CTCDC concurred with the conclusion by a TRB ad hoc panel, that the Manual on Uniform Traffic Control Devices does not emphasize issues relating to navigation and guide signing that is oriented to local and regional streets and highways. No specific areas of research were identified.

Item 98-1 NO PARKING BIKE LANE

Caltrans has approved the signs.

Item 98-3 ITE/CALTRANS LED SPECIFICATION

Caltrans is in the process of putting product approval on the internet.